

CLAIMS

1 1. A method for promoting immunotolerance in a host to a gene therapy
2 vector, comprising the step of:
3 transfecting a host cell with said vector, such that said vector expresses a
4 transgene, an antigen and a Fas 2 ligand, wherein expression of said Fas 2 ligand induces
5 apoptosis in a T-cell raised against said antigen in the host.

1 2. The method of claim 1 further comprising the step of:
2 exposing said host to a second vector following therapeutic gene expression, said
3 second vector expressing said antigen and a second ligand wherein expression of said
4 second ligand induces apoptosis in said T-cell.

1 3. The method of claim 2 wherein said second ligand induces apoptosis of
2 said T-cell by the same mechanism as said Fas 2 ligand.

1 4. The method of claim 3 wherein said Fas 2 ligand interacts with a death
2 domain region molecule DRX of said T-cell, wherein X is selected from the group
3 consisting of 3, 4, and 5.

1 5. The method of claim 1 wherein transfecting said host cell occurs *in vitro*.

UAB-11703/22
40210gs

1 6. The method of claim 1 wherein transfecting said host cell occurs *in vivo*.

1 7. The method of claim 6 wherein transfecting said host cell occurs by an
2 intra-nasal pathway.

1 8. The method of claim 6 wherein transfecting said host cell occurs by an
2 intravenous pathway.

1 9. The method of claim 1 wherein said vector is selected from the group
2 consisting of: a recombinant adenovirus, a recombinant adeno-associated virus, and a
3 recombinant herpes virus.

1 10. The method of claim 1 wherein said vector is selected from the group
2 consisting of: adenovirus, adeno-associated virus and herpes virus.

1 11. The method of claim 10 wherein said vector is replication defective.

1 12. The method of claim 10 wherein said vector encodes only nonpathogenic
2 polypeptides.

1 13. The method of claim 1 wherein said antigen is a polypeptide encoded for
2 by a vector associated gene.

1 14. A method for creating an immune privileged site in a tissue of an
2 organism, said method comprising the steps of:

3 providing a gene therapy vector encoding and expressing a Fas 2 ligand, a
4 transgene and an antigen in the tissue of the organism; and

5 infecting cells of said tissue with said vector, whereby expression of the Fas 2
6 ligand in said tissue induces apoptosis of T-cells raised against said antigen to confer
7 specific immunity to infected cells.

1 15. The method of claim 14 further comprising the step of: reinfected said
2 tissue with said vector so as to prolong expression of said therapeutic gene.

1 16. The method of claim 14 wherein said transgene is selected from the group
2 consisting of CFTR, Factor 8, protease inhibitor and insulin.

1 17. The method of claim 14 wherein said vector is a recombinant adenovirus.

1 18. The method of claim 14 wherein said vector is selected from the group
2 consisting of: adenovirus, adeno-associated virus and herpes virus.

UAB-11703/22
40210gs

1 19. The method of claim 18 wherein said vector is replication defective.

1 20. The method of claim 18 wherein said vector encodes only nonpathogenic
2 polypeptides.

1 21. A gene therapy viral vector comprising:
2 a transgene;
3 a viral vector gene that is expressed as an antigen on an infected host cell;
4 a Fas 2 ligand gene; and
5 a gene expression control means for directing product synthesis of said transgene
6 and said Fas 2 ligand gene in a host.